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## NOTICE OF ALLOWANCE AND FEE(S) DUE

23373 7590 08/27/2010 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON DC 20037 EXAMINER

IP. SHIK LUEN PAUL

ART UNIT PAPER NUMBER

2837

DATE MAILED: 08/27/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,792	03/15/2006	Geraldo Nojima	A8396	6845

TITLE OF INVENTION: LOW VOLTAGE, TWO-LEVEL, SIX-PULSE INDUCTION MOTOR CONTROLLER DRIVING A MEDIUM-TO-HIGH VOLTAGE, THREE-OR-MORE-LEVEL AC DRIVE INVERTER BRIDGE

APPLN, TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	11/29/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 1SI. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

#### HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and I/2 the ISSUE FIEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

#### PART B - FEE(S) TRANSMITTAL

# Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

or Fax (571)-273-2885

INSTRUCTIONS: This appropriate. All further e indicated unless correcte maintenance fee notificat	correspondence including d below or directed off	or tran ig the l icrwise	smitting the ISSU Patent, advance or in Block 1, by (a	TE FEE and PUBLICA' ders and notification of i) specifying a new corr	FION FEE (if re maintenance fee espondence addre	quired). will be ss; and/o	Blocks 1 through 5 s mailed to the current or (b) indicating a sepa	hould be completed where correspondence address as trate "FEE ADDRESS" for	
CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)				No Fe pa	Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.				
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nonprovisional	NO		\$1510	\$300	\$0		\$1810	11/29/2010	
EXAM	INER		ART UNIT	CLASS-SUBCLASS	7				
IP, SHIK LU	JEN PAUL		2837	318-801000	_				
"Fee Address" indi PTO/SB/47; Rev 03-0: Number is required.  3. ASSIGNEE NAME AT	ondence address (or Cha 1/122) attached. cation (or "Fee Address 2 or more recent) attach ND RESIDENCE DAT. cess an assignee is ident in 37 CFR 3.11. Comp	nge of ' ' Indicated, Use	Correspondence  ation form  of a Customer  E PRINTED ON T		to 3 registered patively, gle firm (having a agent) and the n ioneys or agents. e printed.  ype) patent. If an assi	s a memi ames of u If no nar	per a 2pp to	ocument has been filed for	
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	SMALL ENTITY state	ıs. See	37 CFR I.27.	b. Applicant is no lo					
NOTE: The Issue Fee and interest as shown by the r	d Publication Fee (if req ecords of the United Sta	uired) v tes Pate	will not be accepted ent and Trademark	from anyone other than Office.	the applicant; a r	gistered	attorney or agent; or th	ne assignee or other party in	
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PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.



# UNITED STATES PATENT AND TRADEMARK OFFICE

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23373 75	90 08/27/2010	EXAMINER		
SUGHRUE MIO	N, PLLC	IP, SHIK LUEN PAUL		
	ANIA AVENUE, N.W	ART UNIT	PAPER NUMBER	
SUITE 800 WASHINGTON, I	OC 20037	2837 DATE MAIL ED: 08/27/201	0	

# Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 1200 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 1200 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

### Application No. Applicant(s) 10/522,792 NOJIMA, GERALDO Notice of Allowability Examiner Art Unit /PAUL IP/ 2837 -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308. This communication is responsive to this application filed on 1/28/2005. The allowed claim(s) is/are 1-36. 3. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). b) \( \subseteq \text{Some\* c} \) \( \subseteq \text{None of the:} \) 1. T Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No. 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)). \* Certified copies not received: \_\_\_\_\_. Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. THIS THREE-MONTH PERIOD IS NOT EXTENDABLE. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient. CORRECTED DRAWINGS (as "replacement sheets") must be submitted. (a) Including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached 1) hereto or 2) to Paper No./Mail Date (b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d). 6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL. Attachment(s) 1. Notice of References Cited (PTO-892) 5. Notice of Informal Patent Application 2. Notice of Draftperson's Patent Drawing Review (PTO-948) Interview Summary (PTO-413), Paper No./Mail Date Information Disclosure Statements (PTO/SB/08). 7. ☐ Examiner's Amendment/Comment Paper No./Mail Date See Continuation Sheet 8. X Examiner's Statement of Reasons for Allowance 4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material Other .

Primary Examiner, Art Unit 2837

/PAUL IP/

 $Continuation \ of \ Attachment (s) \ 3. \ Information \ Disclosure \ Statements \ (PTO/SB/08), \ Paper \ No./Mail \ Date: \ 1/28/2005 \ \& \ 8/27/2007.$ 

Page 2

Application/Control Number: 10/522,792

Art Unit: 2837

#### REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance:

Claims 1-36 filed on 1/28/2005 have been considered in view of the specification and the drawings of this application with respect to the references of the record. The documents submitted with 371 applications have been considered.

Claims 1-36 are drafted into a method and an apparatus of controlling a multiplelevel inverter bridge with a two-level induction motor controller as shown in figure 18. The claims recite limitations conformed with the statutory requirement in terms of elements plus functions as supported by the specification and the drawings of this application. The claims recite a multiple-level inverter connected to a two-level induction motor controller thru an adapter circuit for converting the two-level induction motor controller signals.

The references of the record, such as Maurio et al 6,118,932, taken alone or in combination fail to teach or suggest a multiple-level inverter bridge with a two-level induction motor controller connected in such a way for converting the six modulated signals into N time-coordinated signals wherein N ≥ 12 and N is an integer-multiple of 3, controlling N switches of the multiple-level inverter bridge by applying the N time-coordinated signals, and the multiple-level inverter bridge comprises three branches, each branch having N/3 switches and producing one phase of a three-phase output of the multiple-level inverter bridge, and never-less-than N/6 of the N/3 switches of a respective branch of the multiple level inverter bridge having a logical-off state as recited in the claims. The references of the record taken alone or in combination fail to teach or suggest an adapter circuit connected to a two-level induction motor controller and a multiple-level inverter as recited in the claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance." Art Unit: 2837

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /PAUL IP/ whose telephone number is (571)272-1941. The examiner can normally be reached on Monday to Friday from 6:30 am to 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Benson can be reached on (571)-272-2227. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PAUL IP/ Primary Examiner Art Unit 2837

8/23/2010